Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-80 (canceled)

Claim 81 (currently amended): One or more computer readable media storing computer executable instructions to perform a method for vectorizing a set of document predicate structures, the method comprising:

identifying at least one predicate and argument in said set of document predicate structures by a predicate key that is an integer representation~~:~~

~~, and~~ estimating conceptual nearness of two of said document predicate structures in said set of document predicate structures by subtracting corresponding ones of said predicate keys; and

outputting at least one document based upon the estimated conceptual nearness.

Claim 82 (previously presented): The computer readable media of claim 81, the method further comprising constructing multi-dimensional vectors using said integer representation.

Claim 83 (previously presented): The computer readable media of claim 82, the method further comprising normalizing said multi-dimensional vectors.

Claim 84 (previously presented): The computer readable media of claim 83, the method further comprising identifying at least one query predicate structure by a second predicate key that is a second integer representation, and constructing second multi-dimensional vectors, for said at least one query predicate structure, using said second integer representation.

Claim 85 (previously presented): The computer readable media of claim 81, the method further comprising identifying at least one query predicate structure by a second predicate key that is a

second integer representation, and constructing second multi-dimensional vectors, for said at least one query predicate structure, using said second integer representation.

Claim 86 (previously presented): The computer readable media of claim 81, wherein said set of document predicate structures are representations of logical relationships between words in a sentence.

Claim 87 (currently amended): One or more computer readable media storing computer executable instructions to perform a method for vectorizing a set of document predicate structures, the method comprising:

identifying at least one predicate in said set of document predicate structures by a predicate key that is an integer representation;

, and estimating conceptual nearness of two of said document predicate structures in said set of document predicate structures by subtracting corresponding ones of said predicate keys; and

outputting at least one document based upon the estimated conceptual nearness.

Claim 88 (previously presented): The computer readable media of claim 87, the method further comprising constructing multi-dimensional vectors using said integer representation.

Claim 89 (previously presented): The computer readable media of claim 88, the method further comprising normalizing said multi-dimensional vectors.

Claim 90 (previously presented): The computer readable media of claim 89, the method further comprising identifying at least one query predicate structure by a second predicate key that is a second integer representation, and constructing second multi-dimensional vectors, for said at least one query predicate structure, using said second integer representation.

Claim 91 (previously presented): The computer readable media of claim 87, the method further comprising identifying at least one query predicate structure by a second predicate key that is a second integer representation, and constructing second multi-dimensional vectors, for said at least one query predicate structure, using said second integer representation.

Claim 92 (previously presented): The computer readable media of claim 87, wherein said set of document predicate structures are representations of logical relationships between words in a sentence.

Claim 93 (currently amended): One or more computer readable media storing computer executable instructions to perform a method for constructing multi-dimensional vector representations for each document of a set of documents, the method comprising:

determining each predicate structure of one or more predicate structures M in each document of the set of documents, said M predicate structures including a predicate and at least one argument;

identifying the predicate and the at least one argument in each of said M predicate structures by a predicate key that is an integer representation;

determining a fixed number of arguments q for vector construction;

constructing an N-dimensional vector representation of each document based upon the predicate and q arguments; and

outputting at least one document of the set of documents based upon the constructed N-dimensional vector representation of the at least one document,

wherein any predicate structure of said M predicate structures that includes less than q arguments fills unfilled argument positions with a numerical zero.

Claim 94 (previously presented): The computer readable media of claim 93, wherein any predicate structure of said M predicate structures that includes more than q arguments omits remaining arguments after q argument positions are filled.

Claim 95 (previously presented): The computer readable media of claim 94, wherein conceptual nearness of two of said N-dimensional vector representations is estimated by subtracting corresponding ones of said predicate keys.

Claim 96 (previously presented): The computer readable media of claim 94, the method further comprising normalizing said N-dimensional vector representations.

Claim 97 (previously presented): The computer readable media of claim 93, wherein conceptual nearness of two of said N-dimensional vector representations is estimated by subtracting corresponding ones of said predicate keys.

Claim 98 (previously presented): The computer readable media of claim 93, the method further comprising normalizing said N-dimensional vector representations.